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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,739	10/20/2000	Thomas Valentine McCarthy	1377-156P	3757

2292 7590 01/14/2003

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EXAMINER

TUNG, JOYCE

ART UNIT	PAPER NUMBER
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1637

DATE MAILED: 01/14/2003

22

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory ActionApplication No.
09/673,739Applicant(s)
McCarthy et al.Examiner
Joyce TungArt Unit
1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED Dec 10, 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

Therefore, further action by the applicant is required to avoid the abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

THE PERIOD FOR REPLY [check only a) or b)]

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☒ A Notice of Appeal was filed on Aug 29, 2002. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see NOTE below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because:
please the attached.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: _____

Claim(s) rejected: claims 1-21 and 23

Claim(s) withdrawn from consideration: _____

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
10. ☐ Other: _____

1. claims 1-5, 8, 10-12, 14-16 and 20-21, 23 remain rejected under the judicially created doctrine of obviousness-type double patenting as being obvious over claims 1, 2, 4-7, 12-13 and 15-19 of McCarthy et al. U.S. Pat. No. 5,952,176 in view of Chirikjian et al. (5,656,430).

Applicants argue that the teachings of McCarthy et al. do not disclose cleaving the DNA at the abasic site so as to generate an extendible upstream DNA fragment having a 3' hydroxyl terminus (See claim 1). However, McCarthy et al. disclose cleaving phosphate linkage at an abasic site in which the 3' hydroxyl terminus is generated. This teaching was well known in the art at the time of the instant invention (See pg. 1606, fig. 1 of the reference of Dianov et al.). Further, the language "cleaving the DNA" is unclear as to which group of the DNA is cleaved. McCarthy et al. disclose that the cleavage products is analyzed in which the cleavage products can be amplified for the analysis.

Moreover, Applicants argue that the teachings of Chirikjian et al., disclose that the glycosylase generates an abasic site at a point of mismatch which is subsequently cleaved by an endonuclease. Claim language does not specify whether the abasic site has mismatch or not. In addition, Applicants argue that the "probe" of Chirikjian et al. is a piece of synthetic nucleic acid and it is this piece of synthetic nucleic acid extended. However, the synthetic nucleic acid and naturally occurred nucleic acid would have the same chemical structure. Thus, the claims 1, 2, 4-7, 12-13 and 15-19 of McCarthy et al. U.S. Pat. No. 5,952,176 in view of Chirikjian et al. is read on the limitations of claim 1 and the rejection is maintained.

2. Claims 1-2 and 8-21, 23 remain rejected under 35 U.S.C. § 103(a) over McCarthy et al. (WO 97/03210) in view of Chirikjian et al. (5,656,430).

The rejection is maintained with the same reasons as discussed in section 1 above.

3. Claims 3-7 remain rejected under 35 U.S.C. § 103(a) over McCarthy et al. (WO

97/03210) in view of Chirikjian et al. (5,656,430) as applied to claims 1-2 and 8-23 above, and further in view of Dianov et al. (Molecular and Cellular Biology, 1992, Vol. 12(4), pg. 1605-1612).

Applicants argue that Dianov et al. merely disclose DNA repair mechanisms and the use of DNA polymerases to repair a damage site and fail to disclose at least either of steps I) or step iv) of the present invention. However, the method of Dianov et al. comprises the steps of instant claim 1, the language "cleaving the DNA at the abasic site so as to generate and release an extendible upstream DNA fragment having a 3' hydroxyl terminus" is broad regarding which part of the DNA is cleaved and how the cleaved DNA fragment is released. The claim language also do not specify which side is cleaved. Thus the terms discussed in the response filed 12/10/2002 are not in the claim language. Therefore, the teachings of Dianov et al. suggest the limitations of claims 3-7. The rejection is maintained.

4. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Joyce Tung whose telephone number is (703) 305-7112. The examiner can normally be reached on Monday-Friday from 8:00 AM-4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached at (703) 308-1119 on Monday-Friday from 10:00 AM-6:00 PM.

Any inquiries of a general nature or relating to the status of this application should be directed to the Chemical/Matrix receptionist whose telephone number is (703) 308-0196.

5. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Art Unit 1637 via the PTO Fax Center located in Crystal

Mall 1 using (703) 305-3014 or 308-4242. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989).

Joyce Tung

January 8, ^{J.T.}2002

Jeffrey Siew
JEFFREY SIEW
PRIMARY EXAMINER

1/12/03